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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,287	05/08/2001	Johannes J. Verboom	18504/337	3428

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EXAMINER
NGUYEN, TUAN M

ART UNIT	PAPER NUMBER
2828	

DATE MAILED: 09/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/851,287	VERBOOM ET AL.	
	Examiner	Art Unit	
	Tuan M Nguyen	2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 May 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Paul Ip

PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the laser", there is insufficient antecedent basic of this limitation in the claim. The laser is not clear whether it is "a low noise laser" or "a laser". Claim 1 also recites " an optical positioned to receive a portion of a light signal generated by the laser and produce a signal indicative of the laser beam generated by the laser, is not clear whether a signal produce by "the laser" or "an optical sensor", the functional recitation that **" a noise reduction feedback network operatively connected to the optical sensor and to the laser, the noise reduction feedback including filtering and impedance characteristics so as to produce a noise reduction signal which is provided to the laser"** has not been given patentable weight because it is narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a "mean" for performing the specified function, as set forth 35 U.S.C. 112, 6th paragraph

and must be support by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re Fuller, 1929 C.D. 172; 388 O. G. 279.

Claim 12 recites "a noise reduction feedback network" connected to the amplifier for receiving the amplifier signal, the noise reduction feedback network further connected to the laser in order to provide a filter noise signal to the laser, there is no support by recitation in the claims of sufficient structure to warrant the presence of the functional language. In re Fuller, 1929 C.D. 172; 388 O. G. 279.

Claim 26 recites " a noise reduction feedback network providing a cancellation signal to reduce the noise in the laser signal directed to the optical medium". There is no support by recitation in the claims of sufficient structure to warrant the presence of the functional language. In re Fuller, 1929 C.D. 172; 388 O. G. 279.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-5, 11-12 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Yao et al (US patent 5,723,856).

With respect to claims 1 and 12, Yao discloses opto-electronic oscillator having a positive feedback with an open loop gain greater than one comprising a pump laser (40),

laser beams (42,44), the optical output (49), the photodetector (16) is consider as optical sensor, an amplifier (18), a bandpass filter (22), note cols. 3-5, see fig 1a.

With respect to claims 4-5, Yao discloses the noise reduction feedback band pass filter (22) is consider as a RCL circuit, note col. 4, see fig 3.

With respect to claim 11, Yao discloses the noise reduction feedback network, see fig 1a.

With respect to claim 16, Yao discloses a photodectector (16) is consider as an optical sensor or a fast forward sense detector, see fig. 1a.

With respect to claim 17, Yao discloses the noise reduction feedback network, see fig. 1a.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 2-3, 7-8, 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yao et al (US patent 5,723,856) in view of Logan (US patent 5,687,261).

With respect to claim 2, Yao discloses all above except for the LF and CW. Whereas Logan discloses the CW and LF, note cols. 4-9. For the benefit of CW and LF local feedback could be employed on laser to reduce the potential noise source, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yao with the CW and LF as taught or suggested by Logan.

With respect to claims 3, 7 and 10 Logan discloses a filter amplifier (82), photodiodes (64, 72), see fig 3. Logan also discussed about LF local feedback loop could be employed on the laser to reduce the potential noise source, note col. 9.

With respect to claim 8, Yao discloses bandpass filter (22) is consider as RCL circuit, note col. 4, see fig. 1a

With respect to claim 18, Logan discloses a phase detector (89) is consider as an optical switch, that control the loop filter (82), note col. 8, see fig. 5.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yao et al (US patent 5,723,856) in view of Blauvelt et al (US patent 5,798,854).

With respect to claim 6, Yao discloses all above except for the noise reduction feedback network is a high-pass transistor amplifier. Whereas Blauvelt discloses the network are series and shut forward biased diodes, transistors, single-end amplifiers. These networks can be used as single distorter elements of in combination with passive elements such as resistors, capacitors and inductors. For the benefit of in-line predistorter

for linearization of electric and optical signal, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yao with the transistor amplifier as taught or suggested by Blauvelt.

8. Claims 9, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yao et al (US patent 5,723,856) in view of Logan (US patent 5,687,261) further in view of Blauvelt et al (US patent 5,798,854).

With respect to claims 9, 13 and 15,Yao and Logan disclose all above except for noise reduction feedback network is a high-pass transistor amplifier network. Whereas Blauvelt discloses the high pass transistor amplifier, note col. 6. For the benefit of used in-line predistorter for linearization of electric and optical signal, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yao with the transistor amplifier as taught or suggested by Blauvelt.

With respect to claim 14, Blauvelt discloses resistor, capacitor and inductor all connected in series, see fig 11a and 11b.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yao et al (US patent 5,723,856) in view of Logan (US patent 5,687,261) further in view of Arnett et al (US patent 5,602,806).

With respect to claim 19, Yao et al and Logan discloses all above except for the data storage. Whereas Arnett et al discloses an optical storage system, note col. 4, see fig 4. For the benefit of magneto-optical recording device capable of reducing thermal interference between recording pits, it would have been obvious to one having ordinary

skill in the art at the time the invention was made to provide Yao with the MO storage system as taught or suggested by Arnett.

10. Claims 20-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yao et al (US patent 5,723,856) in view of Arnett et al (US patent 5,602,806).

With respect to claim 20, Yao et al discloses all above except for the storage system and a processor. Whereas Arnett et al disclose the storage system and a processor note col. 4, see fig. 4. For the benefit of magneto-optical recording device capable of reducing thermal interference between recording pits, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yao with the MO storage system and system controller processor as taught or suggested by Arnett.

With respect to claim 21, Arnett et al discloses the switches (504, 508) to provide for selective generation of the cancellation signal, note col. 6, see fig 12.

With respect to claims 22-24, Yao et al discloses the bandpass filter (22) is consider as a high pass filter, that is includes resistor, capacitor and inductor, see fig 1a.

With respect to claim 26, Yao et al discloses the photodetector (16) is consider as an optical sensor or a fast forward sense detector.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yao et al (US patent 5,723,856) in view of Arnett et al (US patent 5,602,806) further in view of Blauvelt et al (US patent 5,798,854).

With respect to claim 25, Yao and Arnett disclose all above except for the transistor amplifier. Whereas Blauvelt et al discloses the transistor amplifier, note col. 8-

10, see fig 9a and 9b. For the benefit of in-line predistorter for linearization of electric and optical signals, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yao with the transistor amplifier as taught or suggested by Blauvelt.

Citation Of The Pertinent References

12. The prior art made of record and not relied upon us considered pertinent to applicant's disclose.

The patent to Masuda (US patent 6,304,200 B1) discloses digital analog conversion apparatus and reproduction apparatus.

The patent to Gaeta et al (US patent 6,167,066) discloses linearly polarized, single frequency fiber lasers.

The patent to Coccoli (US patent 4,863,272) discloses multi-mode fiber optic resonator gyroscope.

Communication Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247. The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 306-5511 for regular communications and (703) 306-5511 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Paul Ip
SPE
Art unit 2828

TMN
August 26, 2002